$B^{\pm}$ – THIS IS PART 2 OF 2

To reduce the size of this section's PostScript file, we have divided it into two PostScript files. We present the following index:

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PART 2

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$\Gamma(J/\psi(1S)K^+)/\Gamma_{total}$ Γ_{56}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
9.9 ± 1.0 OUR AVERAGE					
10.2 ± 0.8 ±0.7		[107] JESSOP	97	CLE2	$e^+e^- \to \Upsilon(4S)$
9.16± 3.01±0.30		[108] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
8.0 ± 3.5 ±0.3	6	[109] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
11.0 ± 1.5 ±0.9	59	[110] ALAM	94	CLE2	Repl. by JESSOP 97
22 ±10 ±2		BUSKULIC	92G	ALEP	$e^+e^- \to Z$
7 ± 4	3	[111] ALBRECHT	87D	ARG	$e^+e^- \to \Upsilon(4S)$
10 ± 7 ±2	3	[112] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$
9 ± 5	3	[113] ALAM	86	CLEO	$e^+e^- \to \Upsilon(4S)$

[107] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[108] BORTOLETTO 92 reports $8 \pm 2 \pm 2$ for $B(J/\psi(1S) \to e^+e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \to e^+e^-) = (6.02 \pm 0.19) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[109] ALBRECHT 90J reports $7 \pm 3 \pm 1$ for $B(J/\psi(1S) \to e^+e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \to e^+e^-) = (6.02 \pm 0.19) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[110] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[111] ALBRECHT 87D assume $B^+B^-/B^0\overline{B}^0$ ratio is 55/45. Superseded by ALBRECHT 90J.

[112] BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92.

[113] ALAM 86 assumes $B^\pm/B^0$ ratio is 60/40.

$\Gamma(J/\psi(1S)K^+\pi^+\pi^-)/\Gamma_{total}$ Γ_{57}/Γ

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
0.0014 ±0.0006 OUR AVERAGE						
0.00137±0.00081±0.00004			[114] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
0.00137±0.00090±0.00004		6	[115] ALBRECHT	87D	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.0018	90		[116] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$

[114] BORTOLETTO 92 reports $0.0012 \pm 0.0006 \pm 0.0004$ for $B(J/\psi(1S) \to e^+e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \to e^+e^-) = (6.02 \pm 0.19) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[115] ALBRECHT 87D reports 0.0012 ± 0.0008 for $B(J/\psi(1S) \to e^+e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \to e^+e^-) = (6.02 \pm 0.19) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. They actually report 0.0011 ± 0.0007 assuming $B^+B^-/B^0\overline{B}^0$ ratio is 55/45. We rescale to 50/50. Analysis explicitly removes $B^+ \to \psi(2S)K^+$.

[116] ALBRECHT 90J reports < 0.0016 for $B(J/\psi(1S) \to e^+e^-) = 0.069$. We rescale to our best value $B(J/\psi(1S) \to e^+e^-) = 0.0602$. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(J/\psi(1S)K^*(892)^+)/\Gamma_{total}$ Γ_{58}/Γ

For polarization information see the Listings at the end of the "B^0 Branching Ratios" section.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.00147±0.00027 OUR AVERAGE					
0.00141±0.00023±0.00024		[117] JESSOP	97	CLE2	$e^+e^- \to \Upsilon(4S)$
0.00158±0.00047±0.00027		[118] ABE	96H	CDF	$p\overline{p}$ at 1.8 TeV
0.00149±0.00107±0.00005		[119] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
0.0018 ±0.0013 ±0.0001	2	[120] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.00178±0.00051±0.00023	13	[121] ALAM	94	CLE2	Sup. by JESSOP 97

[117] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[118] ABE 96H assumes that $B(B^+ \to J/\psi K^+) = (1.02 \pm 0.14) \times 10^{-3}$.

[119] BORTOLETTO 92 reports 0.0013 ± 0.0009 ± 0.0003 for $B(J/\psi(1S) \to e^+e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \to e^+e^-) = (6.02 \pm 0.19) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[120] ALBRECHT 90J reports 0.0016 ± 0.0011 ± 0.0003 for $B(J/\psi(1S) \to e^+e^-) = 0.069 \pm 0.009$. We rescale to our best value $B(J/\psi(1S) \to e^+e^-) = (6.02 \pm 0.19) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[121] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(J/\psi(1S)K^*(892)^+)/\Gamma(J/\psi(1S)K^+)$ Γ_{58}/Γ_{56}

VALUE	DOCUMENT ID		TECN	COMMENT
1.52±0.24 OUR AVERAGE				
1.45±0.20±0.17	[122] JESSOP	97	CLE2	$e^+e^- \to \Upsilon(4S)$
1.92±0.60±0.17	ABE	96Q	CDF	$p\overline{p}$

[122] JESSOP 97 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. The measurement is actually measured as an average over kaon charged and neutral states.

$\Gamma(J/\psi(1S)\pi^+)/\Gamma(J/\psi(1S)K^+)$ Γ_{59}/Γ_{56}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.051±0.014 OUR AVERAGE					
$0.05\ ^{+0.019}_{-0.017}\pm0.001$		ABE	96R	CDF	$p\overline{p}$ 1.8 TeV
0.052±0.024		BISHAI	96	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.043±0.023	5	[123] ALEXANDER	95	CLE2	Sup. by BISHAI 96

[123] Assumes equal production of B^+B^- and $B^0\overline{B}^0$ on $\Upsilon(4S)$.

$\Gamma(J/\psi(1S)\rho^+)/\Gamma_{total}$ Γ_{60}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.7 \times 10^{-4}$	90	BISHAI	96	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(J/\psi(1S)a_1(1260)^+)/\Gamma_{total}$ Γ_{61}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2 \times 10^{-3}$	90	BISHAI	96	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\psi(2S)K^+)/\Gamma_{total}$ Γ_{62}/Γ

VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
6.9± 3.1 OUR AVERAGE Error includes scale factor of 1.3.						
6.1± 2.3±0.9		7	[124] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
18 ± 8 ±4		5	[124] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
< 5	90		[124] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
22 ±17		3	[125] ALBRECHT	87D	ARG	$e^+e^- \to \Upsilon(4S)$

[124] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[125] ALBRECHT 87D assume $B^+B^-/B^0\overline{B}^0$ ratio is 55/45. Superseded by ALBRECHT 90J.

$\Gamma(\psi(2S)K^*(892)^+)/\Gamma_{total}$ Γ_{63}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0030	90	[126] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.0035	90	[126] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
<0.0049	90	[126] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$

[126] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\psi(2S)K^+\pi^+\pi^-)/\Gamma_{total}$ Γ_{64}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0019±0.0011±0.0004	3	[127] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$

[127] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\chi_{c1}(1P)K^+)/\Gamma_{total}$ Γ_{65}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0010 ±0.0004 OUR AVERAGE					
0.00097±0.00040±0.00009	6	[128] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
0.0019 ±0.0013 ±0.0006		[129] ALBRECHT	92E	ARG	$e^+e^- \to \Upsilon(4S)$

[128] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[129] ALBRECHT 92E assumes no $\chi_{c2}(1P)$ production and B($\Upsilon(4S) \to B^+B^-$) = 50%.

$\Gamma(\chi_{c1}(1P)K^*(892)^+)/\Gamma_{total}$ Γ_{66}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0021	90	[130] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$

[130] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(K^0\pi^+)/\Gamma_{total}$ Γ_{67}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{2.3^{+1.1}_{-1.0}\pm 0.36}$		GODANG	98	CLE2	$e^+e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 4.8	90		ASNER	96	CLE2	Repl. by GODANG 98
<19	90		ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$
<10	90	[131]	AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<68	90		AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[131] AVERY 89B reports $< 9 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^+\pi^0)/\Gamma_{total}$ Γ_{68}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.6 \times 10^{-5}$	90	GODANG	98	CLE2	$e^+e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<1.4 \times 10^{-5}$	90	ASNER	96	CLE2	Repl. by GODANG 98

$[\Gamma(K^+\pi^0) + \Gamma(\pi^+\pi^0)]/\Gamma_{total}$ $(\Gamma_{68}+\Gamma_{102})/\Gamma$

VALUE	DOCUMENT ID		TECN	COMMENT
$(1.6^{+0.6}_{-0.5} \pm 0.36) \times 10^{-5}$	GODANG	98	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta' K^+)/\Gamma_{total}$ Γ_{69}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$(6.5^{+1.5}_{-1.4} \pm 0.9) \times 10^{-5}$	BEHRENS	98	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta' K^*(892)^+)/\Gamma_{total}$ Γ_{70}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3 \times 10^{-4}$	90	BEHRENS	98	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta K^+)/\Gamma_{total}$ Γ_{71}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.4 \times 10^{-5}$	90	BEHRENS	98	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta K^*(892)^+)/\Gamma_{total}$ Γ_{72}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.0 \times 10^{-5}$	90	BEHRENS	98	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(K^*(892)^0\pi^+)/\Gamma_{total}$ Γ_{73}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.1 \times 10^{-5}$	90	ASNER	96	CLE2	$e^+e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<3.9 \times 10^{-4}$	90	[132]	ADAM	96D	DLPH	$e^+e^- \to Z$
$<4.8 \times 10^{-4}$	90	[133]	ABREU	95N	DLPH	Sup. by ADAM 96D
$<1.7 \times 10^{-4}$	90		ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$
$<1.5 \times 10^{-4}$	90	[134]	AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
$<2.6 \times 10^{-4}$	90		AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[132] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

[133] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[134] AVERY 89B reports $< 1.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(892)^+\pi^0)/\Gamma_{total}$ Γ_{74}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<9.9\times10^{-5}$	90	ASNER	96	CLE2	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K^+\pi^-\pi^+$ nonresonant$)/\Gamma_{total}$ Γ_{75}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.8\times10^{-5}$	90	BERGFELD	96B	CLE2	$e^+e^-\to\ \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.3\times10^{-4}$	90	[135] ADAM	96D	DLPH	$e^+e^-\to\ Z$
$<4.0\times10^{-4}$	90	[136] ABREU	95N	DLPH	Sup. by ADAM 96D
$<3.3\times10^{-4}$	90	ALBRECHT	91E	ARG	$e^+e^-\to\ \Upsilon(4S)$
$<1.9\times10^{-4}$	90	[137] AVERY	89B	CLEO	$e^+e^-\to\ \Upsilon(4S)$

[135] ADAM 96D assumes $f_{B^0}=f_{B^-}=0.39$ and $f_{B_s}=0.12$.

[136] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[137] AVERY 89B reports $<1.7\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^-\pi^+\pi^+$ nonresonant$)/\Gamma_{total}$ Γ_{76}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<5.6\times10^{-5}$	90	BERGFELD	96B	CLE2	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K_1(1400)^0\pi^+)/\Gamma_{total}$ Γ_{77}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.6\times10^{-3}$	90	ALBRECHT	91B	ARG	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K_2^*(1430)^0\pi^+)/\Gamma_{total}$ Γ_{78}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.8\times10^{-4}$	90	ALBRECHT	91B	ARG	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K^+\rho^0)/\Gamma_{total}$ Γ_{79}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.9\times10^{-5}$	90	ASNER	96	CLE2	$e^+e^-\to\ \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.2\times10^{-4}$	90	[138] ADAM	96D	DLPH	$e^+e^-\to\ Z$
$<1.9\times10^{-4}$	90	[139] ABREU	95N	DLPH	Sup. by ADAM 96D
$<1.8\times10^{-4}$	90	ALBRECHT	91B	ARG	$e^+e^-\to\ \Upsilon(4S)$
$<8\ \times10^{-5}$	90	[140] AVERY	89B	CLEO	$e^+e^-\to\ \Upsilon(4S)$
$<2.6\times10^{-4}$	90	AVERY	87	CLEO	$e^+e^-\to\ \Upsilon(4S)$

[138] ADAM 96D assumes $f_{B^0}=f_{B^-}=0.39$ and $f_{B_s}=0.12$.

[139] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[140] AVERY 89B reports $<7\times10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^0\rho^+)/\Gamma_{total}$ Γ_{80}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.8\times10^{-5}$	90	ASNER	96	CLE2	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K^*(892)^+\pi^+\pi^-)/\Gamma_{total}$ **Γ_{81}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1\times10^{-3}$	90	ALBRECHT	91E	ARG	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K^*(892)^+\rho^0)/\Gamma_{total}$ **Γ_{82}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<9.0\times10^{-4}$	90	ALBRECHT	91B	ARG	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K_1(1400)^+\rho^0)/\Gamma_{total}$ **Γ_{83}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.8\times10^{-4}$	90	ALBRECHT	91B	ARG	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K_2^*(1430)^+\rho^0)/\Gamma_{total}$ **Γ_{84}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.5\times10^{-3}$	90	ALBRECHT	91B	ARG	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K^+\overline{K}^0)/\Gamma_{total}$ **Γ_{85}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.1\times10^{-5}$	90	GODANG	98	CLE2	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K^+K^-\pi^+\text{nonresonant})/\Gamma_{total}$ **Γ_{86}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.5\times10^{-5}$	90	BERGFELD	96B	CLE2	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(K^+K^-K^+)/\Gamma_{total}$ **Γ_{87}/Γ**

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
$<2.0\times10^{-4}$	90	[141]	ADAM	96D	DLPH	$e^+e^-\to\ Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<3.1\times10^{-4}$	90	[142]	ABREU	95N	DLPH	Sup. by ADAM 96D
$<3.5\times10^{-4}$	90		ALBRECHT	91E	ARG	$e^+e^-\to\ \Upsilon(4S)$

[141] ADAM 96D assumes $f_{B^0}=f_{B^-}=0.39$ and $f_{B_s}=0.12$.

[142] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

$\Gamma(K^+\phi)/\Gamma_{total}$ **Γ_{88}/Γ**

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
$<1.2\times10^{-5}$	90		ASNER	96	CLE2	$e^+e^-\to\ \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<2.8\times10^{-4}$	90	[143]	ADAM	96D	DLPH	$e^+e^-\to\ Z$
$<4.4\times10^{-4}$	90	[144]	ABREU	95N	DLPH	Sup. by ADAM 96D
$<1.8\times10^{-4}$	90		ALBRECHT	91B	ARG	$e^+e^-\to\ \Upsilon(4S)$
$<9\ \ \times10^{-5}$	90	[145]	AVERY	89B	CLEO	$e^+e^-\to\ \Upsilon(4S)$
$<2.1\times10^{-4}$	90		AVERY	87	CLEO	$e^+e^-\to\ \Upsilon(4S)$

[143] ADAM 96D assumes $f_{B^0}=f_{B^-}=0.39$ and $f_{B_s}=0.12$.

[144] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[145] AVERY 89B reports $<8\times10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^+ K^- K^+ \text{ nonresonant})/\Gamma_{total}$ Γ_{89}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.8 \times 10^{-5}$	90	BERGFELD	96B	CLE2	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(K^*(892)^+ K^+ K^-)/\Gamma_{total}$ Γ_{90}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.6 \times 10^{-3}$	90	ALBRECHT	91E	ARG	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(K^*(892)^+ \phi)/\Gamma_{total}$ Γ_{91}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.0 \times 10^{-5}$	90	ASNER	96	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.3 \times 10^{-3}$	90	ALBRECHT	91B	ARG	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(K_1(1400)^+ \phi)/\Gamma_{total}$ Γ_{92}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1 \times 10^{-3}$	90	ALBRECHT	91B	ARG	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(K_2^*(1430)^+ \phi)/\Gamma_{total}$ Γ_{93}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.4 \times 10^{-3}$	90	ALBRECHT	91B	ARG	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(K^+ f_0(980))/\Gamma_{total}$ Γ_{94}/Γ

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
$<8 \times 10^{-5}$	90	[146]	AVERY	89B	CLEO	$e^+ e^- \to \Upsilon(4S)$

[146] AVERY 89B reports $< 7 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(892)^+ \gamma)/\Gamma_{total}$ Γ_{95}/Γ

VALUE	CL%	EVTS		DOCUMENT ID		TECN	COMMENT
$(5.7 \pm 3.1 \pm 1.1) \times 10^{-5}$		5	[147]	AMMAR	93	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •							
$< 5.5 \times 10^{-4}$	90		[148]	ALBRECHT	89G	ARG	$e^+ e^- \to \Upsilon(4S)$
$< 5.5 \times 10^{-4}$	90		[149]	AVERY	89B	CLEO	$e^+ e^- \to \Upsilon(4S)$
$< 1.8 \times 10^{-3}$	90			AVERY	87	CLEO	$e^+ e^- \to \Upsilon(4S)$

[147] AMMAR 93 observed 4.1 ± 2.3 events above background.
[148] Assumes the $\Upsilon(4S)$ decays 45% to $B^0 \overline{B}^0$.
[149] Assumes the $\Upsilon(4S)$ decays 43% to $B^0 \overline{B}^0$.

$\Gamma(K_1(1270)^+ \gamma)/\Gamma_{total}$ Γ_{96}/Γ

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
<0.0073	90	[150]	ALBRECHT	89G	ARG	$e^+ e^- \to \Upsilon(4S)$

[150] ALBRECHT 89G reports < 0.0066 assuming the $\Upsilon(4S)$ decays 45% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(K_1(1400)^+\gamma)/\Gamma_{total}$ Γ_{97}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0022	90	[151] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[151] ALBRECHT 89G reports < 0.0020 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K_2^*(1430)^+\gamma)/\Gamma_{total}$ Γ_{98}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0014	90	[152] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[152] ALBRECHT 89G reports < 0.0013 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(1680)^+\gamma)/\Gamma_{total}$ Γ_{99}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0019	90	[153] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[153] ALBRECHT 89G reports < 0.0017 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K_3^*(1780)^+\gamma)/\Gamma_{total}$ Γ_{100}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0055	90	[154] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[154] ALBRECHT 89G reports < 0.005 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K_4^*(2045)^+\gamma)/\Gamma_{total}$ Γ_{101}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0099	90	[155] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[155] ALBRECHT 89G reports < 0.0090 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\pi^+\pi^0)/\Gamma_{total}$ Γ_{102}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.0\times10^{-5}$	90	GODANG	98	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.7\times10^{-5}$	90	ASNER	96	CLE2	Repl. by GODANG 98
$<2.4\times10^{-4}$	90	[156] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
$<2.3\times10^{-3}$	90	[157] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[156] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.
[157] BEBEK 87 assume the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$.

$\Gamma(\pi^+\pi^+\pi^-)/\Gamma_{total}$ Γ_{103}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3\times10^{-4}$	90	[158] ADAM	96D	DLPH	$e^+e^- \to Z$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<2.2 \times 10^{-4}$	90	[159]	ABREU	95N	DLPH	Sup. by ADAM 96D
$<4.5 \times 10^{-4}$	90	[160]	ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
$<1.9 \times 10^{-4}$	90	[161]	BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$

[158] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

[159] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[160] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

[161] BORTOLETTO 89 reports $< 1.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\rho^0\pi^+)/\Gamma_{total}$ Γ_{104}/Γ

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<4.3 \times 10^{-5}$	90		ASNER	96	CLE2	$e^+e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<1.6 \times 10^{-4}$	90	[162]	ADAM	96D	DLPH	$e^+e^- \to Z$
$<2.6 \times 10^{-4}$	90	[163]	ABREU	95N	DLPH	Sup. by ADAM 96D
$<1.5 \times 10^{-4}$	90	[164]	ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
$<1.7 \times 10^{-4}$	90	[165]	BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
$<2.3 \times 10^{-4}$	90	[165]	BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$
$<6 \times 10^{-4}$	90	0	GILES	84	CLEO	Repl. by BEBEK 87

[162] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

[163] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[164] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

[165] Papers assume the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$[\Gamma(K^*(892)^0\pi^+) + \Gamma(\rho^0\pi^+)]/\Gamma_{total}$ $(\Gamma_{73}+\Gamma_{104})/\Gamma$

VALUE	DOCUMENT ID		TECN	COMMENT
$(17\ ^{+12}_{-8} \pm 2) \times 10^{-5}$	[166] ADAM	96D	DLPH	$e^+e^- \to Z$

[166] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

$\Gamma(\pi^+ f_0(980))/\Gamma_{total}$ Γ_{105}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.4 \times 10^{-4}$	90	[167] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$

[167] BORTOLETTO 89 reports $< 1.2 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\pi^+ f_2(1270))/\Gamma_{total}$ Γ_{106}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.4 \times 10^{-4}$	90	[168] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$

[168] BORTOLETTO 89 reports $< 2.1 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\pi^+\pi^-\pi^+ \text{nonresonant})/\Gamma_{total}$ Γ_{107}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.1 \times 10^{-5}$	90	BERGFELD	96B	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\pi^+\pi^0\pi^0)/\Gamma_{total}$ **Γ_{108}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<8.9\times10^{-4}$	90	[169] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[169] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\rho^+\pi^0)/\Gamma_{total}$ **Γ_{109}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.7\times10^{-5}$	90	ASNER	96	CLE2	$e^+e^-\to\ \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<5.5\times10^{-4}$	90	[170] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[170] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\pi^+\pi^-\pi^+\pi^0)/\Gamma_{total}$ **Γ_{110}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.0\times10^{-3}$	90	[171] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[171] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\rho^+\rho^0)/\Gamma_{total}$ **Γ_{111}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.0\times10^{-3}$	90	[172] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[172] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(a_1(1260)^+\pi^0)/\Gamma_{total}$ **Γ_{112}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.7\times10^{-3}$	90	[173] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[173] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(a_1(1260)^0\pi^+)/\Gamma_{total}$ **Γ_{113}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<9.0\times10^{-4}$	90	[174] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[174] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\omega\pi^+)/\Gamma_{total}$ **Γ_{114}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.0\times10^{-4}$	90	[175] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[175] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\eta\pi^+)/\Gamma_{total}$ **Γ_{115}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.5\times10^{-5}$	90	BEHRENS	98	CLE2	$e^+e^-\to\ \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<7.0\times10^{-4}$	90	[176] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[176] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\eta'\pi^+)/\Gamma_{total}$ **Γ_{116}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.1\times10^{-5}$	90	BEHRENS	98	CLE2	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(\eta'\rho^+)/\Gamma_{total}$ **Γ_{117}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.7\times10^{-5}$	90	BEHRENS	98	CLE2	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(\eta\rho^+)/\Gamma_{total}$ **Γ_{118}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.2\times10^{-5}$	90	BEHRENS	98	CLE2	$e^+e^-\to\ \Upsilon(4S)$

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-)/\Gamma_{total}$ **Γ_{119}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<8.6\times10^{-4}$	90	[177] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[177] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\rho^0 a_1(1260)^+)/\Gamma_{total}$ **Γ_{120}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.2\times10^{-4}$	90	[178] BORTOLETTO	89	CLEO	$e^+e^-\to\ \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.0\times10^{-4}$	90	[179] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$
$<3.2\times10^{-3}$	90	[178] BEBEK	87	CLEO	$e^+e^-\to\ \Upsilon(4S)$

[178] BORTOLETTO 89 reports $<5.4\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[179] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\rho^0 a_2(1320)^+)/\Gamma_{total}$ **Γ_{121}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.2\times10^{-4}$	90	[180] BORTOLETTO	89	CLEO	$e^+e^-\to\ \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.6\times10^{-3}$	90	[181] BEBEK	87	CLEO	$e^+e^-\to\ \Upsilon(4S)$

[180] BORTOLETTO 89 reports $<6.3\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[181] BEBEK 87reports $<2.3\times10^{-3}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-\pi^0)/\Gamma_{total}$ **Γ_{122}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.3\times10^{-3}$	90	[182] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[182] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(a_1(1260)^+ a_1(1260)^0)/\Gamma_{total}$ **Γ_{123}/Γ**

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3\times10^{-2}$	90	[183] ALBRECHT	90B	ARG	$e^+e^-\to\ \Upsilon(4S)$

[183] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(p\bar{p}\pi^+)/\Gamma_{total}$ Γ_{124}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 1.6 \times 10^{-4}$	90	[184] BEBEK	89	CLEO	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 5.0 \times 10^{-4}$	90	[185] ABREU	95N	DLPH	Sup. by ADAM 96D
$(5.7 \pm 1.5 \pm 2.1) \times 10^{-4}$		[186] ALBRECHT	88F	ARG	$e^+e^- \to \Upsilon(4S)$

[184] BEBEK 89 reports $< 1.4 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[185] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.
[186] ALBRECHT 88F reports $(5.2 \pm 1.4 \pm 1.9) \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(p\bar{p}\pi^+ \text{nonresonant})/\Gamma_{total}$ Γ_{125}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 5.3 \times 10^{-5}$	90	BERGFELD	96B	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(p\bar{p}\pi^+\pi^+\pi^-)/\Gamma_{total}$ Γ_{126}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 5.2 \times 10^{-4}$	90	[187] ALBRECHT	88F	ARG	$e^+e^- \to \Upsilon(4S)$

[187] ALBRECHT 88F reports $< 4.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(p\bar{p}K^+ \text{nonresonant})/\Gamma_{total}$ Γ_{127}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 8.9 \times 10^{-5}$	90	BERGFELD	96B	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(p\overline{\Lambda})/\Gamma_{total}$ Γ_{128}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 6 \times 10^{-5}$	90	[188] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 9.3 \times 10^{-5}$	90	[189] ALBRECHT	88F	ARG	$e^+e^- \to \Upsilon(4S)$

[188] AVERY 89B reports $< 5 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[189] ALBRECHT 88F reports $< 8.5 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(p\overline{\Lambda}\pi^+\pi^-)/\Gamma_{total}$ Γ_{129}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 2.0 \times 10^{-4}$	90	[190] ALBRECHT	88F	ARG	$e^+e^- \to \Upsilon(4S)$

[190] ALBRECHT 88F reports $< 1.8 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\overline{\Delta}^0 p)/\Gamma_{total}$ Γ_{130}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 3.8 \times 10^{-4}$	90	[191] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$

[191] BORTOLETTO 89 reports $< 3.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\Delta^{++}\overline{p})/\Gamma_{total}$ Γ_{131}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.5\times10^{-4}$	90	[192] BORTOLETTO	89	CLEO	$e^+e^-\to\ \Upsilon(4S)$

[192] BORTOLETTO 89 reports $<1.3\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\Lambda_c^-\,p\,\pi^+)/\Gamma_{total}$ Γ_{132}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$6.2^{+2.3}_{-2.0}\pm1.6$	[193] FU	97	CLE2	$e^+e^-\to\ \Upsilon(4S)$

[193] FU 97 uses PDG 96 values of Λ_c branching fraction.

$\Gamma(\Lambda_c^-\,p\,\pi^+\,\pi^0)/\Gamma_{total}$ Γ_{133}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.12\times10^{-3}$	90	[194] FU	97	CLE2	$e^+e^-\to\ \Upsilon(4S)$

[194] FU 97 uses PDG 96 values of Λ_c branching ratio.

$\Gamma(\Lambda_c^-\,p\,\pi^+\,\pi^+\,\pi^-)/\Gamma_{total}$ Γ_{134}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.46\times10^{-3}$	90	[195] FU	97	CLE2	$e^+e^-\to\ \Upsilon(4S)$

[195] FU 97 uses PDG 96 values of Λ_c branching ratio.

$\Gamma(\Lambda_c^-\,p\,\pi^+\,\pi^+\,\pi^-\,\pi^0)/\Gamma_{total}$ Γ_{135}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.34\times10^{-2}$	90	[196] FU	97	CLE2	$e^+e^-\to\ \Upsilon(4S)$

[196] FU 97 uses PDG 96 values of Λ_c branching ratio.

$\Gamma(\pi^+\,e^+\,e^-)/\Gamma_{total}$ Γ_{136}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0039	90	[197] WEIR	90B	MRK2	e^+e^- 29 GeV

[197] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^+\,\mu^+\,\mu^-)/\Gamma_{total}$ Γ_{137}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0091	90	[198] WEIR	90B	MRK2	e^+e^- 29 GeV

[198] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^+\,e^+\,e^-)/\Gamma_{total}$ Γ_{138}/Γ

Test for $\Delta B=1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6\ \times10^{-5}$	90	[199] AVERY	89B	CLEO	$e^+e^-\to\ \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<9.9 \times 10^{-5}$	90	[200]	ALBRECHT	91E	ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
$<6.8 \times 10^{-3}$	90	[201]	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV
$<2.5 \times 10^{-4}$	90	[202]	AVERY	87	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$

[199] AVERY 89B reports $< 5 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \overline{B}^0$. We rescale to 50%.
[200] ALBRECHT 91E reports $< 9.0 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0 \overline{B}^0$. We rescale to 50%.
[201] WEIR 90B assumes B^+ production cross section from LUND.
[202] AVERY 87 reports $< 2.1 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(K^+ \mu^+ \mu^-)/\Gamma_{total}$ Γ_{139}/Γ

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.0 \times 10^{-5}$	90	[203]	ABE	96L	CDF	$p\overline{p}$ at 1.8 TeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<2.4 \times 10^{-4}$	90	[204]	ALBRECHT	91E	ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
$<6.4 \times 10^{-3}$	90	[205]	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV
$<1.7 \times 10^{-4}$	90	[206]	AVERY	89B	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
$<3.8 \times 10^{-4}$	90	[207]	AVERY	87	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$

[203] ABE 96L measured relative to $B^0 \rightarrow J/\psi(1S) K^+$ using PDG 94 branching ratios.
[204] ALBRECHT 91E reports $< 2.2 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0 \overline{B}^0$. We rescale to 50%.
[205] WEIR 90B assumes B^+ production cross section from LUND.
[206] AVERY 89B reports $< 1.5 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \overline{B}^0$. We rescale to 50%.
[207] AVERY 87 reports $< 3.2 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(892)^+ e^+ e^-)/\Gamma_{total}$ Γ_{140}/Γ

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.9 \times 10^{-4}$	90	[208]	ALBRECHT	91E	ARG	$e^+ e^- \rightarrow \Upsilon(4S)$

[208] ALBRECHT 91E reports $< 6.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(892)^+ \mu^+ \mu^-)/\Gamma_{total}$ Γ_{141}/Γ

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2 \times 10^{-3}$	90	[209]	ALBRECHT	91E	ARG	$e^+ e^- \rightarrow \Upsilon(4S)$

[209] ALBRECHT 91E reports $< 1.1 \times 10^{-3}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(\pi^+ e^+ \mu^-)/\Gamma_{total}$ Γ_{142}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0064	90	[210]	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[210] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^+ e^- \mu^+)/\Gamma_{total}$ Γ_{143}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0064	90	[211] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[211] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^+ e^+ \mu^-)/\Gamma_{total}$ Γ_{144}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0064	90	[212] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[212] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^+ e^- \mu^+)/\Gamma_{total}$ Γ_{145}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0064	90	[213] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[213] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^- e^+ e^+)/\Gamma_{total}$ Γ_{146}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0039	90	[214] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[214] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^- \mu^+ \mu^+)/\Gamma_{total}$ Γ_{147}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0091	90	[215] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[215] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^- e^+ \mu^+)/\Gamma_{total}$ Γ_{148}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0064	90	[216] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[216] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^- e^+ e^+)/\Gamma_{total}$ Γ_{149}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0039	90	[217] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[217] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^- \mu^+ \mu^+)/\Gamma_{total}$ Γ_{150}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0091	90	[218] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[218] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^- e^+ \mu^+)/\Gamma_{total}$ **Γ_{151}/Γ**

Test of total lepton number conservation.

VALUE	*CL%*	*DOCUMENT ID*	*TECN*	*COMMENT*
<0.0064	90	[219] WEIR 90B	MRK2	$e^+ e^-$ 29 GeV

[219] WEIR 90B assumes B^+ production cross section from LUND.

$B^\pm$ REFERENCES

ABE	98B	PR D57 5382	F. Abe+	(CDF Collab.)
BEHRENS	98	PRL 80 3710	B.H. Behrens+	(CLEO Collab.)
BRANDENB...	98	PRL 80 2762	G. Brandenbrug+	(CLEO Collab.)
GODANG	98	PRL 80 3456	R. Godang+	(CLEO Collab.)
ABE	97J	PRL 79 590	+Abe, Akagi, Allen+	(SLD Collab.)
ACCIARRI	97F	PL B396 327	M. Acciarri+	(L3 Collab.)
ARTUSO	97	PL B399 321	M. Artuso+	(CLEO Collab.)
ATHANAS	97	PRL 79 2208	M. Athanas+	(CLEO Collab.)
BROWDER	97	PR D56 11	T. Browder+	(CLEO Collab.)
FU	97	PRL 79 3125	X. Fu+	(CLEO Collab.)
JESSOP	97	PRL 79 4533	C.P. Jessop+	(CLEO Collab.)
ABE	96B	PR D53 3496	+Albrow, Amendolia, Amidei+	(CDF Collab.)
ABE	96C	PRL 76 4462	+Akimoto, Akopian, Albrow+	(CDF Collab.)
ABE	96H	PRL 76 2015	+Albrow, Amendolia, Amidei+	(CDF Collab.)
ABE	96L	PRL 76 4675	+Akimoto, Akopian, Albrow+	(CDF Collab.)
ABE	96Q	PR D54 6596	+Akimoto, Akopian, Albrow+	(CDF Collab.)
ABE	96R	PRL 77 5176	+Akimoto, Akopian, Albrow+	(CDF Collab.)
ADAM	96D	ZPHY C72 207	W. Adam+	(DELPHI Collab.)
ASNER	96	PR D53 1039	+Athanas, Bliss, Brower+	(CLEO Collab.)
BARISH	96B	PRL 76 1570	+Chadha, Chan, Eigen+	(CLEO Collab.)
BERGFELD	96B	PRL 77 4503	+Eisenstein, Ernst, Gladding+	(CLEO Collab.)
BISHAI	96	PL B369 186	+Fast, Gerndt, Hinson+	(CLEO Collab.)
BUSKULIC	96J	ZPHY C71 31	+De Bonis, Decamp, Ghez+	(ALEPH Collab.)
GIBAUT	96	PR D53 4734	+Kinoshita, Pomianowski, Barish+	(CLEO Collab.)
PDG	96	PR D54 1		
ABREU	95N	PL B357 255	+Adam, Adye, Agasi+	(DELPHI Collab.)
ABREU	95Q	ZPHY C68 13	+Adam, Adye, Agasi+	(DELPHI Collab.)
ADAM	95	ZPHY C68 363	+Adye, Agasi, Ajinenko+	(DELPHI Collab.)
AKERS	95T	ZPHY C67 379	+Alexander, Allison, Ametewee+	(OPAL Collab.)
ALBRECHT	95D	PL B353 554	+Hamacher, Hofmann, Kirchoff+	(ARGUS Collab.)
ALEXANDER	95	PL B341 435	+Bebek, Berkelman, Bloom+	(CLEO Collab.)
Also	95C	PL B347 469 (erratum)	Alexander, Bebek, Berkelman, Bloom+	(CLEO Collab.)
ARTUSO	95	PRL 75 785	+Gao, Goldberg, He+	(CLEO Collab.)
BARISH	95	PR D51 1014	+Chadha, Chan, Cowen+	(CLEO Collab.)
BUSKULIC	95	PL B343 444	+Casper, De Bonis, Decamp, Ghez, Goy+	(ALEPH Collab.)
ABE	94D	PRL 72 3456	+Albrow, Amidei, Anway-Wiese, Apollinari	(CDF Collab.)
ALAM	94	PR D50 43	+Kim, Nemati, O'Neill, Severini+	(CLEO Collab.)
ALBRECHT	94D	PL B335 526	+Hamacher, Hofmann, Kirchhoff, Mankel+	(ARGUS Collab.)
ATHANAS	94	PRL 73 3503	+Brower, Masek, Paar, Gronberg+	(CLEO Collab.)
Also	95	PRL 74 3090 (erratum)	Athanas, Brower, Masek, Paar+	(CLEO Collab.)
PDG	94	PR D50 1173	Montanet+	(CERN, LBL, BOST, IFIC+)
STONE	94	HEPSY 93-11		
ABREU	93D	ZPHY C57 181	+Adam, Adye, Agasi, Alekseev+	(DELPHI Collab.)
ABREU	93G	PL B312 253	+Adam, Adye, Agasi, Ajinenko+	(DELPHI Collab.)
ACTON	93C	PL B307 247	+Alexander, Allison, Allport, Anderson+	(OPAL Collab.)
ALBRECHT	93E	ZPHY C60 11	+Ehrlichmann, Hamacher, Hofmann+	(ARGUS Collab.)
ALEXANDER	93B	PL B319 365	+Bebek, Berkelman, Bloom, Browder+	(CLEO Collab.)
AMMAR	93	PRL 71 674	+Ball, Baringer, Coppage, Copty+	(CLEO Collab.)
BEAN	93B	PRL 70 2681	+Gronberg, Kutschke, Menary, Morrison+	(CLEO Collab.)
BUSKULIC	93D	PL B307 194	+Decamp, Goy, Lees, Minard+	(ALEPH Collab.)
Also	94H	PL B325 537 (errata)		
SANGHERA	93	PR D47 791	+Skwarnicki, Stroynowski, Artuso, Goldberg+	(CLEO Collab.)
ALBRECHT	92C	PL B275 195	+Ehrlichmann, Hamacher, Krueger, Nau+	(ARGUS Collab.)
ALBRECHT	92E	PL B277 209	+Ehrlichmann, Hamacher, Krueger, Nau+	(ARGUS Collab.)
ALBRECHT	92G	ZPHY C54 1	+Ehrlichmann, Hamacher, Krueger, Nau+	(ARGUS Collab.)

BORTOLETTO	92	PR D45 21	+Brown, Dominick, McIlwain+	(CLEO Collab.)
BUSKULIC	92G	PL B295 396	+Decamp, Goy, Lees, Minard+	(ALEPH Collab.)
ALBRECHT	91B	PL B254 288	+Glaeser, Harder, Krueger, Nippe+	(ARGUS Collab.)
ALBRECHT	91C	PL B255 297	+Ehrlichmann, Glaeser, Harder, Krueger+	(ARGUS Collab.)
ALBRECHT	91E	PL B262 148	+Glaeser, Harder, Krueger, Nippe+	(ARGUS Collab.)
BERKELMAN	91	ARNPS 41 1	+Stone	(CORN, SYRA)
"Decays of B Mesons"				
FULTON	91	PR D43 651	+Jensen, Johnson, Kagan, Kass+	(CLEO Collab.)
ALBRECHT	90B	PL B241 278	+Glaeser, Harder, Krueger, Nilsson+	(ARGUS Collab.)
ALBRECHT	90J	ZPHY C48 543	+Ehrlichmann, Harder, Krueger+	(ARGUS Collab.)
ANTREASYAN	90B	ZPHY C48 553	+Bartels, Bieler, Bienlein, Bizzeti+	(Crystal Ball Collab.)
BORTOLETTO	90	PRL 64 2117	+Goldberg, Horwitz, Jain, Mestayer+	(CLEO Collab.)
Also	92	PR D45 21	Bortoletto, Brown, Dominick, McIlwain+	(CLEO Collab.)
WEIR	90B	PR D41 1384	+Klein, Abrams, Adolphsen, Akerlof+	(Mark II Collab.)
ALBRECHT	89G	PL B229 304	+Glaeser, Harder, Krueger+	(ARGUS Collab.)
AVERY	89B	PL B223 470	+Besson, Garren, Yelton+	(CLEO Collab.)
BEBEK	89	PRL 62 8	+Berkelman, Blucher+	(CLEO Collab.)
BORTOLETTO	89	PRL 62 2436	+Goldberg, Horwitz, Mestayer+	(CLEO Collab.)
ALBRECHT	88F	PL B209 119	+Boeckmann, Glaeser+	(ARGUS Collab.)
ALBRECHT	88K	PL B215 424	+Boeckmann, Glaeser+	(ARGUS Collab.)
ALBRECHT	87C	PL B185 218	+Binder, Boeckmann, Glaser+	(ARGUS Collab.)
ALBRECHT	87D	PL B199 451	+Andam, Binder, Boeckmann+	(ARGUS Collab.)
AVERY	87	PL B183 429	+Besson, Bowcock, Giles+	(CLEO Collab.)
BEBEK	87	PR D36 1289	+Berkelman, Blucher, Cassel+	(CLEO Collab.)
ALAM	86	PR D34 3279	+Katayama, Kim, Sun+	(CLEO Collab.)
PDG	86	PL 170B	Aguilar-Benitez, Porter+	(CERN, CIT+)
GILES	84	PR D30 2279	+Hassard, Hempstead, Kinoshita+	(CLEO Collab.)